

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/CA2004/002108

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7 G06F 19/00 A61N 5/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
ICP7 G06F A61N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic database(s) consulted during the international search (name of database(s) and, where practicable, search terms used)  
Delphion, QWEB, INSPEC, IEEE, the internet  
Keywords used: radiation, dose, delivery, optimization, cost, object, function minimize, inverted, beamlet, intersection, matrix, inverse, forward, planning

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No(s).
A	US 2002/008015 (Frolich) 27 June 2002 (27-06-2002) column 1 line 20 - column 2 line 10 column 1 lines 47 - 56 column 4 lines 53 - lines 64 claim 1	1, 22, 30, 34
A	US 6 546 073 (Lee) 8 April 2003 (8-04-2003) column 2 lines 36 - 55 column 4 lines 16 - 23, lines 62 - 67 column 6 lines 58 - 67 figures 1, 3, and 4	1, 22, 30, 34
A	WO 03/099380 (McNutt et al) 20 May 2003 (20-05-2003) page 3 line 11 - page 4 line 5 page 10 line 25 - line 28 claim 1	1, 22 30, 34
A	US 2003/0212325 (Cotrutz et al.) 13 November 2003 ( 13-11-2003) paragraph 0006 - paragraph 10 claims 1, 3, 5, 10	1, 22, 30, 34

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

\* Special categories of cited documents :  
"A" document defining the general state of the art which is not considered to be of particular relevance  
"E" earlier application or patent but published on or after the international filing date  
"L" document which may throw doubt on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  
"O" document referring to an oral disclosure, use, exhibition or other means  
"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone  
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art  
"&" document member of the same patent family

Date of the actual completion of the international search  
05 February 2005 (05-02-2005)

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## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No(s).
A	US 6 038 283 (Carol et al.) 14 March 2000 (14-03-2000) column 3 lines 6-21, lines 25-30, and lines 39-41 column 4 lines 16-66 claims 2, 29 column 5 lines 20-43 and claim 18	1, 22, 30, 34  10

**INTERNATIONAL SEARCH REPORT**  
Information on patent family members

International application No.  
PCT/CA2004/002108

Patent Document Cited in Search Report	Publication Date	Patent Family Member(s)	Publication Date
US2002080915	27-06-2002	US6719683 B2	13-04-2004
US6546073	08-04-2003	US6546073 B1 US6741674 B2 US2004165696 A1	08-04-2003 25-05-2004 26-08-2004
WO03099380	04-12-2003	US6735277 B2 WO03099380 A1	11-05-2004 04-12-2003
US2003212325	13-11-2003	US2003212325 A1	13-11-2003
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